

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number
WO 2005/071816 A3

(51) International Patent Classification⁷: **G01D 1/00**,
5/14, H02K 29/08

(21) International Application Number:
PCT/GB2005/000254

(22) International Filing Date: 26 January 2005 (26.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0401748.9 27 January 2004 (27.01.2004) GB

(71) Applicant (for all designated States except US): **COPLEY
MOTION SYSTEMS LLC** [US/GB]; Luckyn Lane, Pippas
Hill, Basildon, Essex SS14 3BW (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **ROSE, Ian, David**
[GB/GB]; 144 Overton Road, Benfleet SS7 4DT (GB).

(74) Agents: **ROBERTS, Mark, Peter** et al.; J.A. Kemp & Co.,
14 South Square, Gray's Inn, London WC1R 5JJ (GB).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

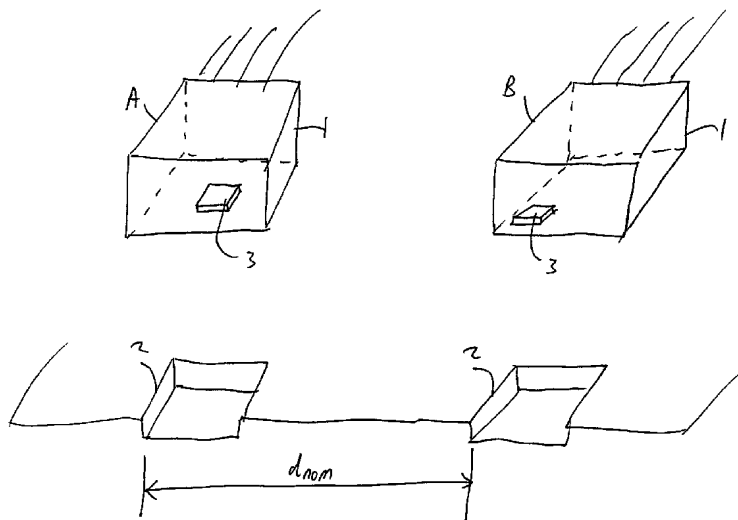
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

[Continued on next page]

(54) Title: LINEAR MOTOR AND TRANSDUCER ARRANGEMENT THEREFOR



(57) Abstract: An improved linear motor which compensates for manufacturing or assembly errors in the positioning of the magnetic field detectors. The linear motor synthesises a correction signal which can be simply combined (for example added) to the output of one of the magnetic field detectors so as to ensure that the magnetic field detector outputs have the correct phase relationship. This in turn ensures that accurate positioning of the rotor relative to the stator can be achieved. In a preferred embodiment, a deliberate error is introduced into the positioning of the magnetic field detectors and this error, plus any error due to manufacturing or assembly tolerances, is corrected using the correction signal. This allows a simplified correction circuit which only corrects for phase offset errors in one direction to be used.



WO 2005/071816 A3



(88) Date of publication of the international search report:

20 October 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.